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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/128,394	08/03/1998	CURT D. TUDOR	RATLP007	2723
26541	7590	06/22/2004	EXAMINER	
RITTER, LANG & KAPLAN 12930 SARATOGA AE. SUITE D1 SARATOGA, CA 95070			ZHEN, LI B	
			ART UNIT	PAPER NUMBER
			2126	
			DATE MAILED: 06/22/2004	

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Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No.		Applicant(s)	
	09/128,394		TUDOR, CURT D.	
	Examiner		Art Unit	
	Li B. Zhen		2126	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1 – 30 are pending in the application.

Response to Arguments

2. Applicant's arguments with respect to claims 1 – 30 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1 – 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,009,269 to Burrows [cited in the previous office action] in view of U.S. Patent No. 6,434,590 to Blelloch.**

5. As to claim 1, Burrows teaches (column 3, lines 43 – 53; column 6, lines 30 – 40) determining unsynchronized access (concurrency error), receiving a request from a first thread to access the resource that is available (a thread makes a call 221 to acquire an associated lock, Fig. 2). Burrows does not teach suspending the first thread for requesting to access the resource to which unsynchronized accesses can be performed.

However, Blelloch teaches receiving a request from a first thread to access (a thread that performs a Read) a resource (synchronization variable), suspending the first thread for requesting to access the resource (a thread that performs a Read on an unwritten synchronization variable suspends itself; col. 10, lines 43 - 65) to which unsynchronized accesses can be performed ("write-once synchronization variable" is a variable (memory location) that can be written by one thread and read by any number of other threads; col. 9, lines 55 – 67), and while the first thread is suspended receiving a request from a second thread (another thread performs a write) to access the resource (it is awakened when another thread performs a Write on that variable; col. 10, lines 60 - 67).

6. It would have been obvious to a person of ordinary skill in the art at the time of the invention to apply the teaching of suspending the first thread for requesting to access a resource to which unsynchronized accesses can be performed as taught by Blelloch to the invention of Burrows because this forces a thread waiting for a flag to wait until it receives the flag and enables synchronizing to a thread that was scheduled at a much later point (col. 8, lines 43 – 60 of Blelloch).

7. As to claim 2, Burrows teaches (column 7, lines 10 – 15) write access.

8. As to claim 3, Burrows as modified teaches awakening the first thread (When a thread writes to a synchronization variable, it checks the synchronization queue for the variable, and awakens any thread in the queue; col. 23, lines 34 – 49 of Blelloch).

9. As to claim 4, Burrows teaches (column 3, lines 10 – 17) logging (record 195, Fig. 1) unsynchronized accesses.

10. As to claim 5, Burrows as modified teaches the first thread is suspended for a predetermined time (continues to execute tasks and new tasks until either all such tasks have completed or a predetermined time, memory, or other criterion has been exceeded; col. 3, lines 1 – 10 of Blelloch).

11. As to claim 6, Burrows as modified teaches the event awaken the first thread (When a thread writes to a synchronization variable, it checks the synchronization queue for the variable, and awakens any thread in the queue; col. 23, lines 34 – 49 of Blelloch).

12. As to claim 7, Burrows as modified teaches the second thread sends the event that awakens the first thread (When a thread writes to a synchronization variable, it checks the synchronization queue for the variable, and awakens any thread in the queue; col. 23, lines 34 – 49 of Blelloch).

13. As to claim 8, Burrows teaches (column 2, lines 20 – 29) the use of memory (system 190 includes a memory, Fig. 1).

14. As to claim 9, this is a product claim that corresponds to method claim 1; note the rejection of claim 1 above, which also meets the product claim.

15. As to claim 10, all of the listed storage mediums are well-known choices to store a computer program.

16. As to claims 11, 12 – 16, these are the same as claims 1 – 2, 3 – 7 except the resource is recited as a memory location; note the rejection of claims 1 – 7 above, which also meets this claims. Obviously the resources would be stored at a memory location.

17. As to claim 17, this is a product claim that corresponds to method claim 11; note the rejection of claim 11 above, which also meets the product claim.

18. As to claim 18, this is the same as claim 10; note the rejection of claim 10 above, which also meets this claim.

19. As to claims 19, 20 – 22, these are the same as claims 11 – 13, 14 – 16; note the rejection of claims 11 – 16 above, which also meets these claims.

20. As to claim 23, this is a product claim that corresponds to method claim 19; note the rejection of claim 19 above, which also meets this claim.

21. As to claim 24, this is the same as claim 10; note the rejection of claim 10 above, which also meets this claim.

22. As to claim 25, this is the same as claim 19 with additional limitations. As to a second thread that writes data to the memory location, it would have been obvious that another thread can write data to the memory location since there is not mechanism for synchronizing the accesses to the memory location. As to modifying existing program, see the rejection to claims 26 – 28.

23. As to claims 26 – 28, this is the same as claims 20 – 22 with the addition of modifying existing program to include computer code. Burrows teaches (column 2, lines 42 – 67) modifying existing program to include computer code.

24. As to claim 29, this is a product claim that corresponds to method claim 25; note the rejection of claim 25 above, which also meets the product claim.

25. As to claim 30, this is the same as claim 10; note the rejection of claim 10 above, which also meets this claim.

Conclusion

26. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Patent NO. 6,360,303 to Wisler teaches a computing system in which multiple processor units share a single memory to form a distributing processing system.

27. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Li B. Zhen whose telephone number is (703) 305-3406. The examiner can normally be reached on Mon - Fri, 8:30am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (703) 305-9678. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

lbz
June 18, 2004

Li B. Zhen
Examiner
Art Unit 2126


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